

Description

TOOTHBRUSH ASSEMBLY WITH RAPIDLY DEPLOYABLE BRUSH HEAD MEMBER

TECHNICAL FIELD

[0001] The present invention relates to novelty toothbrushes and more particularly to a toothbrush assembly with a rapidly deployable brush head member that includes a handle structure, a brush head member having brush bristles extending from a brush head end and a pivot end in pivotal connection with the handle structure, and a brush head switch lock and spring assembly connected between the handle structure and the brush head member such that the brush head member is lockable in an extended configuration and a stored configuration wherein the brush head end is pivoted into and locked within a brush head member storage cavity of the handle structure in a manner to keep the brush bristles of the brush head end sanitary; the brush} head member being locked in the storage position by a slidable trigger latch; a safety lock is provided in connection with the handle structure that, when in a disable position, slidably engages the trigger latch in a manner to prevent the trigger latch from disengaging from the brush head member and, when in an enable position, is disengaged from the trigger latch in a manner to allow the trigger latch to be activated by the user to release the brush head member allowing the biasing spring to rapidly pivot the brush head member at the pivot end causing the brush head end to rapidly rotate into a locked extended position; a brush head member release button is depressed to release the brush head member to allow it to be pivoted from the extended position back into the storage configuration when desired.

BACKGROUND ART

[0002] Parents and other childcare providers are typically required to remind children to brush their teeth. If the toothbrush were fun to play with, children would be more likely to brush their teeth without the need for reminding. It would be desirable, therefore to have a toothbrush that had a fun, novelty feature that children would like to play with.

[0003] It is thus an object of the invention to provide a toothbrush assembly with a rapidly deployable brush head member that includes a handle structure, a brush head member having brush bristles extending from a brush head end and a pivot end in pivotal connection with the handle structure, and a brush head switch lock and spring assembly connected between the handle structure and the brush head member such that the brush head member is lockable in an extended configuration and a stored configuration wherein the brush head end is pivoted into and locked within a brush head member storage cavity of the handle structure in a manner to keep the brush bristles of the brush head end sanitary; the brush head member being locked in the storage position by a slidable trigger latch; a safety lock is provided in connection with the handle structure that, when in a disable position, slidably engages the trigger latch in a manner to prevent the trigger latch from disengaging from the brush head member and, when in an enable position, is disengaged from the trigger latch in a manner to allow the trigger latch to be activated by the user to release the brush head member allowing the biasing spring to rapidly pivot the brush head member at the pivot end causing the brush head end to rapidly rotate into a locked extended position; a brush head member release button is depressed to release the brush head member to allow it to be pivoted from the extended position back into the storage configuration when desired.

[0004]

Accordingly, a toothbrush assembly with rapidly deployable brush head member is provided. The toothbrush assembly with a rapidly deployable brush head member

includes a handle structure, a brush head member having brush bristles extending from a brush head end and a pivot end in pivotal connection with the handle structure, and a brush head switch lock and spring assembly connected between the handle structure and the brush head member such that the brush head member is lockable in an extended configuration and a stored configuration wherein the brush head end is pivoted into and locked within a brush head member storage cavity of the handle structure in a manner to be seated within a brush receiving sanitary pocket provided within the brush head member storage cavity to keep the brush bristles of the brush head end sanitary; the brush head member being locked in the storage position by a slideable trigger latch; a safety lock is provided in connection with the handle structure that, when in a disable position, slidably engages the trigger latch in a manner to prevent the trigger latch from disengaging from the brush head member and, when in an enable position, is disengaged from the trigger latch in a manner to allow the trigger latch to be activated by the user to release the brush head member allowing the biasing spring to rapidly pivot the brush head member at the pivot end causing the brush head end to rapidly rotate into a locked extended position; a brush head member release button is depressed to release the brush head member to allow it to be pivoted from the extended position back into the storage configuration when desired.

DESCRIPTION OF DRAWINGS

[0005] For a further understanding of the nature and objects of the present invention, reference should be made to the following detailed description, taken in conjunction with the accompanying drawings, in which like elements are given the same or analogous reference numbers and wherein:

[0006] Figure 1 is a side plan view of an exemplary embodiment of the toothbrush assembly with a rapidly deployable brush head member of the present invention with the brush head member in the extended position.

- [0007] Figure 2 is a ghosted, side plan view of the toothbrush assembly with rapidly deployable brush head member of Figure 1 with the brush head member in the stored configuration.
- [0008] Figure 3 is a side detail plan view of the brush head member i of Figure 1 in isolation.
- [0009] Figure 4 is a bristle end facing side detail plan view of the brush head member of Figure 1 in isolation.
- [0010] Figure 5 is a brush head member storage cavity facing side plan view of the toothbrush assembly with rapidly deployable brush head member' of Figure 1.
- [0011] Figure 6 is a side plan view of the view of the toothbrush assembly with a rapidly deployable brush head member of Figure 1 showing the brush receiving sanitary pocket in dashed lines.

DISCLOSURE

- [0012] One object of this invention is to provide a toothbrush which has a head which can be rapidly deployed from its handle.
- [0013] Another object of this invention is to provide a toothbrush having a built-in case.
- [0014] Other objects and advantages of this invention shall become apparent from the ensuing descriptions of the invention.

[0015] SUMMARY OF THE INVENTION

- [0016] According to the present invention, a toothbrush assembly with a rapidly deployable brush head member that mimics the operation of a switchblade knife is disclosed. The toothbrush assembly includes a handle structure, a brush head member having a brush head end and a pivot end in pivotal connection with the handle structure, and a brush head switch lock and spring assembly connected between the handle

structure and the brush head member. The spring assembly biases the brush head member and the switch lock controls operation of the toothbrush assembly.

[0017] Figures 1-6 show various aspects of an exemplary embodiment of the toothbrush assembly with rapidly deployable brush head member of the present invention generally designated 10. Toothbrush assembly with rapidly deployable brush head member 10 includes a handle structure, generally designated 12; a brush head member, generally designated 14; and a brush head switch lock and spring assembly, generally designated 16.

[0018] The handle structure 12 has a brush head member storage cavity 18 of the handle structure 12 sized and shaped to allow the brush head member 14 to be seated therein. A sanitary pocket 20 is provided within brush head member storage cavity 18 for keeping the brush bristles 22 of the brush head end 17 sanitary when brush head member 14 is locked in the storage position.

[0019] An inward and outwardly slidable trigger latch, generally designated 26, is mounted through a sidewall 30 of handle structure 12 and prevents brush head member 14 from pivoting out of brush head member storage cavity 18. A slidable safety lock 34 is provided in connection with handle structure 12 that, when in a disable position, slidably engages the trigger latch 26 in a manner to prevent the trigger latch 26 from disengaging from the brush head member 14 preventing the brush head member 14 from exiting the brush head member storage cavity 18 and, when in an enable position, is disengaged from the trigger latch 26 in a manner to allow the trigger latch 26 to be activated by the user to release the brush head member 14 allowing the biasing spring 40 to rapidly pivot the brush head member 14 at the pivot pin 42 positioned through handle structure 12 and a pin aperture 47 of a pivot end 48 of brush head member 14 causing the brush head end 17 to rapidly rotate into a locked extended position. In this embodiment, sliding the safety lock into the enable position allows the brush head member 14 to be pivoted back into the disable

position to lock the brush head member 14 in the stored configuration.

[0020] It can be seen from the preceding description that a toothbrush assembly with rapidly deployable brush head member has been provided.

[0021] It is noted that the embodiment of the toothbrush assembly with rapidly deployable brush head member described herein in detail for exemplary purposes is of course subject to many different variations in structure, design, application and methodology. Because many varying and different embodiments may be made within the scope of the inventive concept(s) herein taught, and because many modifications may be made in the embodiment herein detailed in accordance with the descriptive requirements of the law, it is to be understood that the details herein are to be interpreted as illustrative and not in a limiting sense.